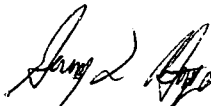




**Sampling and Analysis Plan**  
**for**  
**Cornell-Dubilier Site**  
**South Plainfield, New Jersey**  
**by**  
**Oxford Environmental**  
**for**  
**DSC of Newark Enterprises, Inc.**  
**Revised July 31, 1997**

  
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EPA Approvals:



Eric Wilson  
On Scene Coordinator

8/1/97

with modifications indicated  
in Table 1

## Contents

Background .....	3
Data Use Objectives .....	3
Quality Assurance Objectives .....	3
Approach and Sampling Methodologies .....	3
Sampling Design .....	6
Field Notes .....	6
Sample Labels .....	6
Chain of Custody .....	7
Analytical Methods .....	7
Schedule .....	7
Project Organization and Responsibilities .....	7
Sampling and Reporting- Oxford Environmental .....	7
Quality Assurance Requirements .....	8
Deliverables .....	8
Data Validation .....	9
EPA Oversight .....	9
Corrective Action .....	9
Health and Safety .....	9

## List of Figures

Figure 1      Site Map with Sampling Plan

## List of Attachments

Attachment A      Quantitation Limit

## **Background**

The Cornell-Dubilier site in South Plainfield is currently being stabilized to remove human and ecological exposure to site contaminants. The major contaminants of concern are PCBs, lead and cadmium. Stabilization will consist of paving areas such as driveways and parking areas, fencing areas of known high concentrations of contaminants, and posting warning signs.

## **Data Use Objectives**

Areas in question are the Able Metro parking area, where moving vans are parked, and an adjoining parking area (Figure1). The areas may require paving or may be left unpaved, depending on the concentration of contaminants that are found in the soil and gravel. The purpose of this sampling is to determine if the parking areas should be included in the areas to be paved at this site.

## **Quality Assurance Objectives**

Quality assurance objective QA-2<sup>1</sup> has been selected for this activity by the On Scene Coordinator. The analyte identity will be confirmed on all samples by use of an EPA-approved method. Analyte concentration will also be determined by use of an EPA-approved method. Precision and accuracy of the measurements will be determined by use of matrix spike, matrix spike duplicate and field replicate samples.

## **Approach and Sampling Methodologies**

The material to be sampled is soil. Because surface contamination is the concern, samples will be taken from a depth of 0 -3 inches. Samples will be taken with dedicated stainless steel spoons. The spoons will be new.

If for any reason, a used sampler is needed, it will be decontaminated in the following manner.

1. Wipe off gross contamination.
2. Alconox wash.
3. potable water rinse
4. 10% nitric acid rinse
5. potable water rinse
6. acetone rinse
7. hexane rinse
8. Deionized or distilled water rinse
9. Air dry
10. Wrap in aluminum foil

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<sup>1</sup> Refer to Quality Assurance/Quality Control Guidance for Removal Activities, EPA/540/G-90/004, p. 5, for further details.

Samples will be scooped directly into glass sample jars, as summarized in the following table.

**Table 1**  
**Field Sampling Summary**

Analytical Parameter	Matrix	Container	Preservative	Holding Time	Subtotal Samples	Duplicate Samples	MS/MSD Samples	Total Samples
PCBs	Soil/Gravel *	4 ounce glass	cool to 4 degrees Celsius	7 days from sampling to extraction, 40 days from extraction to analysis	12	1 *	2 (1 MS, 1 MSD)	15
Metals: Lead, Cadmium	*	4 ounce glass	cool to 4 degrees Celsius	180 days from sampling to analysis	12	1 *	2 (1 MS, 1 MSD)	15

Note: No rinsate blank is expected because dedicated stainless steel spoons are expected to be used for sampling. If for any reason, dedicated samplers are not used, a rinsate blank will be required. Only distilled, deionized water will be used for rinsate blanks.

\* Remove gravel from sample

\* Homogenize duplicates in dedicated stainless steel bowl  
JET

## **Sampling Design**

Twelve samples of surface soil will be collected with dedicated stainless steel spoons and analyzed for PCBs, cadmium and lead. Prior to sample collection, gravel, debris and vegetation will be removed from the sampling point. Samples will be collected from 0 to 3 inches deep in the parking areas shown in Figure 1. Samples will be spaced 75 feet apart. The sample locations may be offset slightly if they are blocked by parked vehicles, etc.

## **Field Notes**

Sample locations will be documented by measuring from the fences that surround the areas and sketching distances on a copy of the survey map. An 'as-built' map will be created and supplied with the results of sampling and analysis. If locations must be adjusted in the field, for reasons such as a vehicle blocking a location, the adjustment will be noted in the field log book and reported in the sampling trip report. Appropriate photos will be taken to document samples.

Notes will be recorded in a field log book in such a manner that the activities can be reconstructed by someone other than the author.

The field log book will cover the following :

Project name

Site name and location

Date

Weather

Labor and equipment on site

Visitors

Times of entry and departure

Times of events, such as movement from one sample point to the next

Observations, such as color, texture and moisture of samples

Adjustments made in field, such as moving a sample point, and reasons for the deviation from the plan.

Notes on any photographs taken

Sketches

## **Sample Labels**

Each sample will be labeled completely with the following:

1. Site or project number
2. Sample identification number or name
3. Collection date and time

4. Preservation
5. Analyses required
6. Name of sampler

#### **Chain of Custody**

Chain of custody will also be employed in order to track samples from their origin to the laboratory. Every transfer of custody shall be noted from the time a sample is taken until its final disposition.

#### **Analytical Methods**

PCBs will be analyzed by extraction, then gas chromatography, using a procedure equal to that described in CLP SOW OLMO3.1 or the most recent revision. Because there are different types of PCBs, quantitation limits can vary. Quantitation limits for different types of PCBs are given in Attachment A. under Arochlor 1016 to Arochlor 1260. QA objective is QA-2.

Metals will be analyzed by digestion, then atomic absorption or plasma emission spectroscopy, using a procedure equal to that described in CLP SOW ILMO4.0 or the most recent revision. Quantitation limits are given in Attachment A.. QA objective is QA-2.

#### **Schedule**

The following schedule is proposed.

<u>Event</u>	<u>Start</u>	<u>Finish</u>
Sampling	one working day after EPA approval = Day 1	Day 1
Analysis	Day 2	Day 7 (working days)
Trip Report	Day 2	Day 3
Reporting of	Day 7	Day 7
Unvalidated Data		
Reporting of Validated	Day 8	Day 8
Data		

#### **Project Organization and Responsibilities**

The following project organization is proposed.

#### **Sampling and Reporting- Oxford Environmental**

Personnel	Responsibility
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Gary Boyer            Task Leader- liaison with EPA, lead sampling team, coordinate with laboratory,  
Manolo Polap        Sampler- assist leader with sampling, field measurements, preparation of report.

Laboratory	Matrix	Analysis
Chemtech, Englewood, New Jersey	Soil, grab	PCBs, Cd , Pb

one week turnaround, the quickest turnaround for CLP data packages, will be requested.

#### **Data Validation**

to be named

#### **Quality Assurance Requirements**

The following requirements apply to the quality assurance objectives and chemical parameters identified earlier.

1. Sample documentation in the form of field logbooks, field data sheets, sample map, chain of custody.
2. Laboratory method detection limits along with corresponding sample results where appropriate.
3. Holding times, documented by the laboratory in the report of analysis.
4. Initial and continuous instrument calibration data .
5. Quality control blank results (rinsate, if generated; method, preparation, instrument, etc.) as appropriate
6. Collection and analysis of blind field duplicate and MS/MSD samples to quantitate precision and accuracy, as applicable.
7. Definitive identification- confirm identification on 100% of the samples (all are unscreened) via an EPA-approved method; provide documentation such as gas chromatograms, etc.

#### **Deliverables**

Gary Boyer will maintain liaison with Eric Wilson, EPA's On Scene Coordinator to provide progress reports or answer questions as needed. The following deliverables will be provided:

Trip Report- will provide a detailed account of the sampling. Major events, deviation from sampling plan, personnel.

'As Built' Sampling Map- will show actual sampling locations

Analytical Report- will present analytical methods, sample results, QA/QC results, chain of custody, lab correspondence, raw data as appropriate.

Data Validation Report- will present results of the review of data against validation requirements .



**Data Validation**

Data generated under this plan will be validated according to EPA Region II data validation guidelines. Data will be evaluated for completeness, precision, accuracy, representativeness, and sensitivity.

**EPA Oversight**

EPA has oversight on this project and may audit or observe any portion of the actions required to complete it.

**Corrective Action**

Sampling and analysis should follow the plan approved by EPA. Any problems that develop will be dealt with as quickly as possible in order to continue progress with the sampling, analysis, decision making and if necessary, paving of the parking areas. Deviations from the plan will be documented as they occur, communicated as necessary and will be included in the final report.

The health and safety measures listed in the Site Operations Plan, latest revision, will be followed.

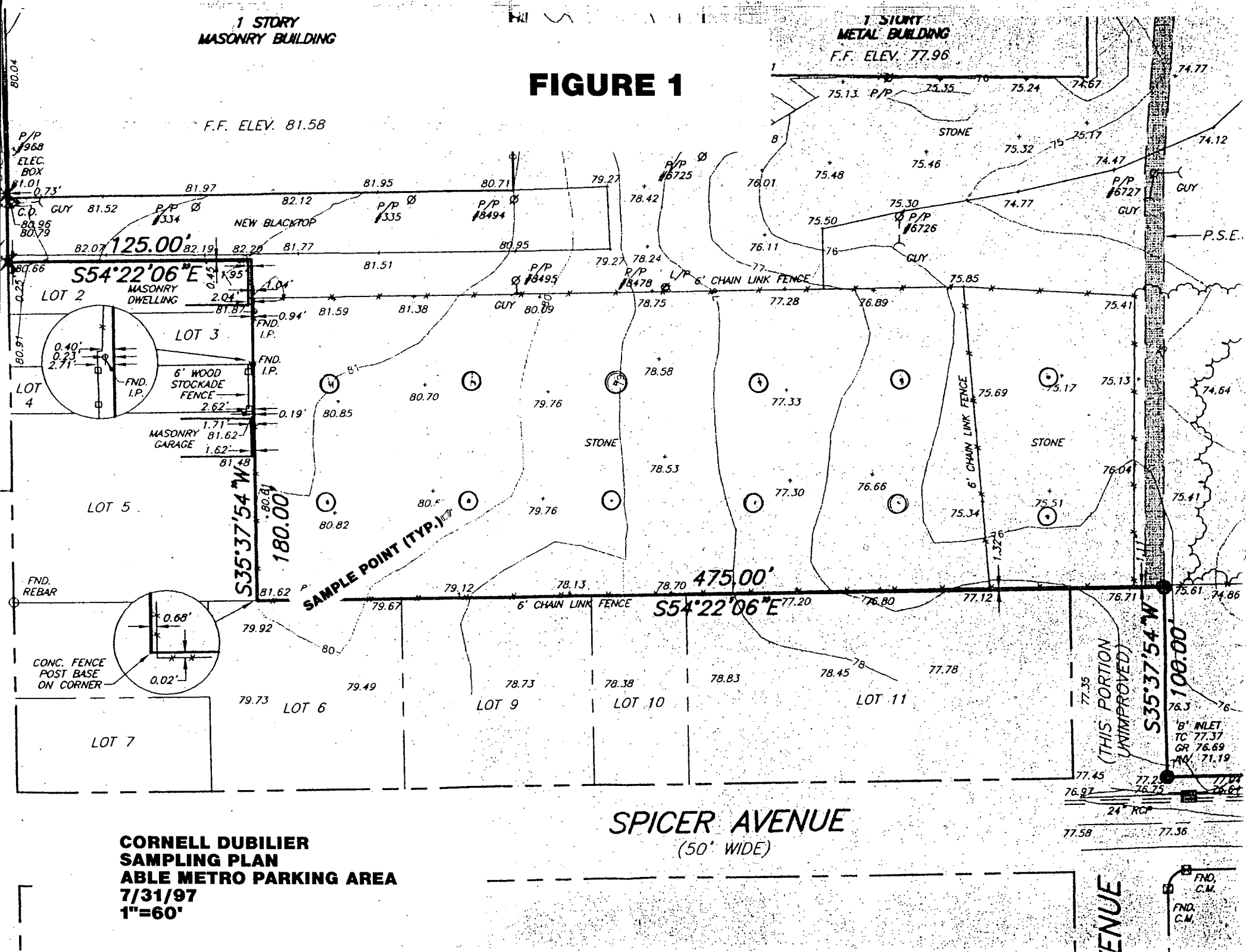
**Health and Safety**

Because this sampling is on undisturbed gravel and soil, modified level C personal protective equipment has been selected.

1 STORY  
MASONRY BUILDING

FIGURE 1

1 STORY  
METAL BUILDING  
F.F. ELEV. 77.96



## Attachment A

TARGET COMPOUND LIST (TCL) AND  
QUANTITATION LIMITS (QL) <sup>(1)</sup>Quantitation Limits <sup>(2)</sup>

Compounds	CAS Number	Water	Soil/ Sediment <sup>(3)</sup>
		ug/L	ug/Kg
116. Endrin aldehyde	7421-36-3	0.10	3.3
117. alpha-Chlordane	5103-71-9	0.5	1.7
118. gamma-Chlordane	5103-74-2	0.5	1.7
120. Aroclor-1016	12674-11-2	0.5	33.0
121. Aroclor-1221	11104-28-2	0.5	33.0
122. Aroclor-1232	11141-16-5	0.5	67.0
123. Aroclor-1242	53469-21-9	0.5	33.0
124. Aroclor-1248	12672-29-6	0.5	33.0
125. Aroclor-1254	11097-69-1	1.0	33.0
126. Aroclor-1260	11096-82-5	1.0	33.0

- (1) Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.
- (2) Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment on dry weight basis will be higher.
- (3) Medium Soil/Sediment Quantitation Limits (QL) for Pesticides/PCB compounds are 15 times the individual Low Soil/Sediment QL.

Based on the Contract Laboratory Program Statement of Work, OLM01.8 (8/91)

# INORGANIC TARGET ANALYTE LIST (TAL)

Analyte	Detection Limit (ug/L -- water (1))
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5,000
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	3
Magnesium	5,000
Manganese	15
Mercury	0.2
Nickel	40
Potassium	5,000
Selenium	5
Silver	10
Sodium	5,000
Thallium	10
Vanadium	50
Zinc	20
Cyanide	10

(1) Sediment detection limit 100x water (ug/kg--soil/sediment).

Based on the Contract Laboratory Program Statement of Work, ILM03.0 (3/92).